A.D. 1862, 20th FEBRUARY. N° 449.

# SPECIFICATION

OF

## GEORGE FREDERIC LEE.

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## TOURNIQUETS.

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LONDON:
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1862.

A.D. 1862, *20th February.* N° 449.

# Tourniquets.

**LETTERS PATENT** to George Frederick Lee, of New Bridge Street, in the City of London, Solicitor, for the Invention of "AN IMPROVEMENT IN TOURNIQUETS."—A communication from abroad by Thomas Scott Lambert, of New York, in the United States of America.

Sealed the 8th July 1862, and dated the 20th February 1862.

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**PROVISIONAL SPECIFICATION** left by the said George Frederick Lee at the Office of the Commissioners of Patents, with his Petition, on the 20th February 1862.

I, GEORGE FREDERICK LEE, of New Bridge Street, in the City of London, Solicitor, do hereby declare the nature of the said Invention for "AN IMPROVEMENT IN TOURNIQUETS," that has been communicated to me from abroad by Thomas Scott Lambert, of New York, in the United States of America, to be as follows:—

In the ordinary tourniquet the ligature that is employed passes round and compresses the whole surface of the limb, stopping the circulation in all the vessels so compressed.

Now this improvement consists in the use of an arterial or compression pad, connected by a non-elastic band with an adjustable counteracting pad, in such manner that the flow of blood in any particular artery may be stopped

without interrupting the flow of blood in the veins. The required pressure is applied and regulated by means of an elastic band attached to the end of the former (non-elastic) one, wound round upon itself and securely fastened.

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**SPECIFICATION** in pursuance of the conditions of the Letters Patent, filed by the said George Frederick Lee in the Great Seal Patent Office on the 6th August 1862.

**TO ALL TO WHOM THESE PRESENTS SHALL COME**, I, GEORGE FREDERICK LEE, of New Bridge Street, in the City of London, Solicitor, send greeting.

**WHEREAS** Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Twentieth day of February, in the year of our Lord One thousand eight hundred and sixty-two, in the twenty-fifth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said George Frederick Lee, Her special licence that I, the said George Frederick Lee, my executors, administrators, and assigns, or such others as I, the said George Frederick Lee, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "AN IMPROVEMENT IN TOURNIQUETS," a communication to me from abroad by Thomas Scott Lambert, of New York, in the United States of America, upon the condition (amongst others) that I, the said George Frederick Lee, my executors or administrators, by an instrument in writing under my, or their, or one of their hands and seals, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

**NOW KNOW YE**, that I, the said George Frederick Lee, do hereby declare the nature of the said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement thereof, that is to say :—

In the ordinary tourniquet, the ligature that is employed passes round and compresses the whole surface of the limb, stopping the circulation in all the vessels so compressed.

*Lee's Improvements in Tourniquets.*

Now this improvement consists in the use of an arterial or compression pad, connected by a non-elastic band with an adjustable counteracting pad in such manner that the flow of blood in any particular artery may be stopped, without interrupting the flow of blood in the veins. The required pressure is applied and regulated by means of an elastic band attached to the end of the former (non-elastic) one wound round upon itself and securely fastened.

And in order that the same may be more fully understood, reference is had to the annexed Drawing and to the following description thereof:—

A, P, represents the arterial or compression pad, made of metal slightly concave on its lower surface, and correspondingly convex above, properly strengthened to prevent springing. In some cases it may be advantageous to have its lower surface convex for the use of a skilful surgeon, or he may apply an additional compress below the concave surface. Near the ends of the upper surface, two wings W, W, are hinged, one of them being made smaller than the other for convenience of package. These wings are so arranged as to throw up their outer ends about an inch above the level of the lower surface, and strong enough to keep their form under more than the ordinary pressure; *c*, *k*, represent checks or teeth on the upper side of the wings, to prevent the compressing bands from slipping; C, P, represents a counteracting pad, like the arterial or compression pad, only that it is somewhat larger, and is furnished with two loops *l*, *l*, near the ends of the upper surfaces; N, E, B, represents a non-elastic band of webbing, about an inch wide and half a yard long, one end of which is attached to the shorter wing of the compression pad, from which it extends over the smaller wing of the larger pad, under its loop, across the pad, under the other loop and over the larger wing, and is joined on to E, B, which is an elastic band about an inch wide and a yard long. It should be sufficiently elastic to stretch about twice its length, and sustain a force of three pounds, without stretching to its utmost when single. The ordinary mode of using this tourniquet is to place the arterial pad A, P, over the main artery of the limb to be operated upon, bring the concave surface of the counteracting pad C, P, against the opposite side of the limb, then pass the bands through the large wing of the compression pad, and draw it tightly to hold the pads in place, then turn the band directly back, so as to carry it over itself and the wings of both pads, the elastic part being stretched, so that each turn around the wings will increase the pressure until the flow of blood in the artery is stopped, when the free end of the band should be passed under a tense turn of it, and thus held securely. When this tourniquet is used in case of amputation of a limb, the band is not to be carried over

the wings but through them, and in the treatment of aneurism by compression the same plan may be adopted if thought preferable.

What I claim as the Invention communicated to me as herein-before stated is the construction of a simple, cheap, and efficacious field or army tourniquet, by the combination of elastic and non-elastic bands with a compression and counteracting pad, substantially as herein-before described and shown in the accompanying Drawing.

In witness whereof, I, the said George Frederick Lee, have hereunto set my hand and seal, this Fourth day of August, in the year of our Lord One thousand eight hundred and sixty-two.

GEORGE FREDERICK LEE. (L.S.)

Witness,
W. Baddeley,
Patent Agent,
Islington.

LONDON:
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Printers to the Queen's most Excellent Majesty. 1862.

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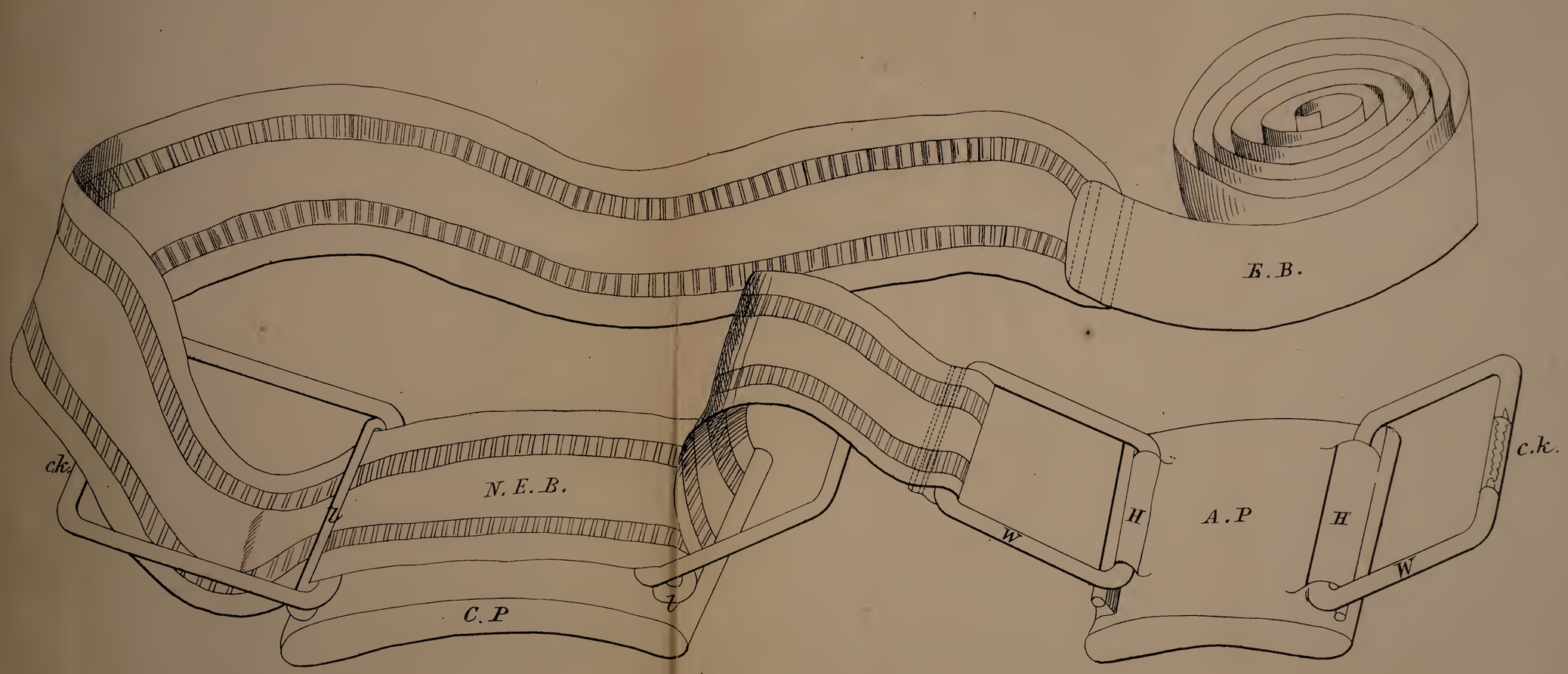
LEE'S Specification.

*(1 SHEET)*




*The filed drawing is colored.*

Drawn on Stone by Malby & Sons

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Printers to the Queen's most Excellent Majesty. 1862.